

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICANT: IMPELLIZZERI, Frederic

SERIAL NO.: 10/530,683

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EXAMINER: Hoffman, M. C.

TITLE: SELF-LOCKING OSTEOSYNTHESIS DEVICE

Amendment G: CLAIM AMENDMENTS

Claims 1 - 18 (canceled).

19. (Currently amended) A self-locking osteosynthesis device comprising:

a plate having a plurality of openings formed therein, each of said plurality of openings having a top diameter ~~and an~~ with a top edge forming a shoulder within said opening and a bottom diameter smaller than said top diameter, said plate being formed of a metallic material;

a plurality of inserts respectively fixedly and non-rotationally received in said plurality of openings, each of said plurality of inserts defining a tapered hole having an inner wall, each of said plurality of inserts being formed of a biocompatible polymeric material, each insert fixedly engaging top and bottom surfaces of said shoulder of said opening and ~~having a uniform width greater than~~ extending above the top surface of said plate; and

a plurality of bone screws respectively received in said tapered hole of said plurality of inserts, each of said plurality of bone screws having a conical head with an outer conical thread aligned along said conical head for self-tapped threaded engagement with said inner wall of said tapered hole, said plurality of bone screws having said conical head locked in said plurality of inserts when the thread of the bone screw engages an underlying surface, each insert being fixed relative to said plate when a respective bone screw is being angularly received in said tapered hole of said plurality of inserts.

20. (Previously presented) The device of Claim 19, said plurality of inserts being formed of a thermoplastic polymer.

21. (Previously presented) The device of Claim 19, said plurality of inserts being formed of a polyether ether ketone material.

22. (Canceled).

23. (Previously presented) The device of Claim 19, said plate being formed of titanium.

24. (Canceled).

25. (Previously presented) The device of Claim 19, said plurality of inserts being mechanically secured respectively in said plurality of openings.

26. (Currently amended) A self-locking osteosynthesis device comprising:

a plate having a plurality of openings formed therein, each of said plurality of openings having a top diameter ~~and an~~ with a top edge forming a shoulder extended into each of said plurality of openings and a bottom diameter smaller than said top diameter, said plate being formed of a metallic material;

a plurality of inserts respectively fixedly and non-rotationally received in said plurality of openings by direct molding from casting, each of said plurality of inserts defining a tapered hole having an inner wall, each of said plurality of inserts being formed of a biocompatible polymeric material, each insert fixedly engaging top and bottom ~~opposing~~ surfaces of said shoulder of said opening; and

a plurality of tapping screws threadedly secured respectively in the hole of said plurality of inserts, said inner wall of said tapered hole being in self-tapped threaded engagement by a tapping screw, each of said plurality of tapping screws having a head formed at an end thereof,

said head having a conical shape, said head having a conical threading formed thereon, said inner wall having threads positioned by said conical threading of each corresponding tapping screw, each insert being fixed when a respective tapping screw is being angularly received in said hole of said plurality of inserts.

27. (Canceled).

28. (Currently amended) A self-locking osteosynthesis device comprising:

a plate having a plurality of openings formed therein, each of said plurality of openings having a top diameter ~~and an~~ with a top edge forming a shoulder extended into each of said plurality of openings and a bottom diameter smaller than said top diameter, said plate being formed of a metallic material;

a plurality of inserts respectively fixedly and non-rotationally received in said plurality of openings, each of said plurality of inserts defining a hole having an inner wall and a diameter less than the diameter of the opening, each of said plurality of inserts being formed of a biocompatible polymeric material, each insert fixedly engaging top and bottom surfaces of said shoulder of said opening and extending above a top surface of ~~having a generally uniform width greater than~~ said plate; and

a plurality of tapping screws threadedly received respectively in the hole of said plurality of inserts, said inner wall of said hole being in self-tapping threaded engagement with a tapping screw, each of said plurality of tapping screws having a head formed at an end thereof, said head having a conical shape, said head having a conical threading formed thereon, said conical threading engaging said inner wall of said hole to form threads, each insert being ~~constantly aligned~~ fixed within said plate when a respective tapping screw is being angularly received in said hole of said plurality of inserts.